and still utilize the advantages of presence and messaging used together in IP networks. For instance, some of the users of the first plurality of users **2** are shown registered at the presence server **4** but subscribed at a second messaging server **12**. Likewise, some of the second plurality of users **8** are shown subscribed at the messaging server **10** but registered at a second presence server **14**. The second messaging server **12** and the second presence server **14** are able to communicate with a second central server **16** which itself is able to communicate with the first central server **6** so that all of the users of the first plurality **2** can communicate with all of the users of the second plurality **8** using both messaging and presence services generally available and not restricted to a narrow area. The various servers, as well as the various users shown in **FIG. 1**, can be distributed over a wide area. The servers and some of the users may be fixed, but some of the users may be mobile. It will therefore be advantageous for purposes of the present invention for all of the users to be able to contact the services offered by such presence and messaging servers for utilizing those services alone, as well as other services, such as location based services which may act in conjunction with either the presence server or the messaging server or both.

[**0064**] The presence server can be made into a particularly powerful service by registering spatial location information from the users therein utilizing an application layer control protocol. This will be shown in detail below.

[**0065**] It should be realized that the messaging and presence services can be combined with each other or with the central server either individually or together. For instance, **FIG. 1** shows the first central server **6** and the first messaging server **10** combined in a single first server **18** which combines the functions of a central server and a messaging server. Similarly, **FIG. 1** shows the second messaging server **12** and the second central server **16** combined into a single second server **20** which combines the functions of a messaging server and a central server. Such functions can have many different forms which will be described by way of several examples. For instance, an inviting user **22** provides an invitation message on a signal line **24** to the first central server **6** inviting an exchange of content with an invited user **26**. In response thereto, the first central server **6** provides a presence query on a line **28** to the first presence server **4**. The user **26**, having already been registered at the presence server **4** as indicated by a logical connection line **30**, the first presence server **4** returns presence information relating to the registered user **26** on the line **28** to the first central server **6**. The first central server **6** is responsive to the presence information about the registered user **26** for use in deciding whether the content proposed for exchange by the user **22** should be sent to the invited user **26**, stored or refused. If the first central server decides that the content should be sent, the first central server **6** will cause the content to be sent to the user **26**. This may be a transfer directly from the user **22** to the user **26** or may be through a specified transport path.

[**0066**] It should also be realized that if the invited user had been registered at the second presence server **14**, such as a user **32**, then the first central server **6** would respond to the invitation message on the line **24** by communicating with the second central server **16** on a line **34**. The second central server **16** would then provide a presence query on a line **36** to the second presence server **14** for the same purpose as previously described in connection with the query on the line **28** sent to the first presence server **4**. By having multiple central servers and multiple presence servers over many different areas, various presence services can be made available generally. In the just-mentioned example, either the first central server **6** or the second central server **16** can make the decision as to whether the content should be sent to the invited user **32** in appropriate control of the transfer, storage or refusal can be effected from either one.

[**0067**] Advantageously, the invitation message on the line **24**, the presence query on the line **28** or on the line **36**, are communicated according to an application layer control protocol, such as the session initiation protocol (SIP) known from RFC 2543.

[**0068**] In addition to the use of presence to decide whether the content should be sent to the invited user, stored or refused, it is advantageous according to the present invention to utilize a messaging service for subscribing the users shown in **FIG. 1** in such a way that they may provide information as to their messaging preferences. In such a case, for instance, the first central server **6** is responsive to the invitation message on the line **24** for also providing a subscription query on a signal line **36** to the first messaging server **10**. As shown in **FIG. 1**, the invited user **26** has a logical connection **36** to the first messaging server **10**, wherein the user **26** has previously subscribed to a messaging service provided by the first messaging server **10**. Consequently, the first messaging server **10** responds to the subscription query on the line **36** by providing notification information relating to the subscription service subscribed by the user **26** indicative of the user's preferences. Such might include, for instance, notification of an event wherein the central server is responsive to the notification information for use in deciding whether the content should be sent to the invited user, stored or refused. Again, the subscription query and the notification information may be exchanged on the signal line **36** according to an application control protocol, such as the known SIP.

[**0069**] Presence as Spatial Location Applied to SIP

[**0070**] The presence information relating to a registered user may include spatial location information. The basic requirements for providing the spatial location information of devices connected to wire and wireless IP networks are described below. According to the teachings of the present invention, the Session Initiation Protocol (SIP) may be used as transport and Spatial Location Information (SLO) as the data format inserted in the SIP payload. See IETF-draft-loughney-spatial-arch-00.txt entitled "Basic SloP Architecture proposal" for detailed information defining a SloP architecture. The description below introduces the relationship between the SIP for registering and transporting the data and the SLO as the location information structure. Also described is the integration of both elements and the dependency between them. The result is a common architecture for providing the user location information over IP networks. Also shown is the relationship among the network elements involved in the architecture and the overall functionality.

[**0071**] As mentioned above, the SIP is an application layer signaling protocol used for creating, modifying and terminating multimedia sessions among different parties. It is mainly used as a call control protocol in IP Telephony. The SLO is a data structure defined for carrying user location